Surely it is not too much to assume the existence of meteoritic swarms of such comparatively small dimensions.

In some incidental remarks upon temporary stars, Mr. Maunder agreed with Mr. Lockyer in 1890 (*Journal of the British Astronomical Association*, vol. i. No. 1, p. 29) that they "must be stars in quite another sense to our sun. The rapidity with which their brightness diminishes is plain proof of this. Only small bodies could cool so rapidly, and since despite their vast distance (for their parallax is insensible) these Novas show themselves conspicuous, we are obliged to explain their brilliancy by considering them as consisting of aggregations of such small bodies; the total extent and mass of the swarm making up for the insignificant size of its components."

It will be seen that Mr. Lockyer's theory fits in with these observations most aptly. "New stars," he says (Roy. Soc. Proc., vol. xliii. p. 154), "whether seen in connection with nebulæ or not, are produced by the clash of meteor swarms. Clearly, as the swarm cooled down after the collision, we should find its spectrum tend to assume the nebular type." It is quite immaterial whether the chief nebular line is considered to be due to magnesium or not. According to the meteoritic hypothesis, a new star, as it diminishes in brilliancy, and presumably in temperature, must degrade towards the condition of a nebula. Accept the observations in proof of such a transformation, and the idea that nebulæ are entirely composed of glowing gas becomes untenable, unless it is believed that a Nova increases in temperature as it diminishes in brightness. On the other hand, the change of a new star into a nebula gives strong support to Mr. Lockyer's view that nebulæ are low temperature phenomena. In a paper "On the Causes which Produce the Phenomena of New Stars" (Phil. Trans., vol. clxxxii. (1891) A. pp. 397–448) Mr. Lockyer shows that the spectroscopic observations of Nova Coronæ, Nova Cygni, and Nova Andromedæ are in agreement with his hypothesis. It was therefore expected that Nova Aurigæ should assume the characteristic badge of a nebula. The expectation has been strikingly realised. In August, 1892, the star revived, and on the 19th of that month Prof. Campbell, of the Lick Observatory, wrote the following account of his observations of it (*Astr. Nach.*, No. 3133):—"The brightest line previously observed was resolved into three lines, whose wave-lengths were about 501, 496, and 486, which were at once recognised to be the three characteristic nebular lines. The same morning Prof. Barnard, using the 36-inch equatorial, observed the Nova as a nebula 3″ in diameter, with a tenth magnitude star in its centre. Thus the nebulous character of the object was independently established by two entirely different methods." Writing on the same subject, Prof. Barnard remarks (*Astr. Nach.*, No. 3143):—"I think it unquestionable that had any decided nebulosity existed about the star at its first appearance, it would have been detected in observations with the 36-inch, especially when the star had faded somewhat. So it is clearly evident that there has been an actual transformation in every sense of the word of a star into a nebula within an interval of only four months." Herr Renz has also observed the nebular character of the Nova by means of the Pulkowa refractor. On the other hand, one or two observers have been unable to detect the nebulosity, and it does not appear on Dr. Roberts's photograph of the region. It is impossible, however, to think that an observer of Prof. Barnard's calibre could have been deceived in the matter; hence the conflicting observations are probably accounted for by fluctuations in the extent and brightness of the nebulosity. The fact that Dr. Max Wolf's photographs of the Nova fail to show any haziness round the star goes for nothing, for a patch 3″ in diameter could not be distinguished from a point upon the scale of his pictures.

The spectroscopic evidence of the nebular character of Nova Aurigæ in its old age does not rest merely upon Prof. Campbell's observations. Prof. Copeland examined the spectrum on August 25 and 26, and also Mr. J. G. Lohse. From the measures obtained the mean values assigned to the two brightest lines were λ 500·3 and λ 495·3, while a fainter line was seen in the position λ 580·1, which is also the position of a bright line found in the Wolf-Rayet stars and Nova Cygni (NATURE vol. xlvi. p. 464). Mr. Fowler has also observed the two lines at 5006 and 4956 (*Ibid.* vol. xlvii. p. 399). But perhaps the most convincing of all testimonies is contained in a paper by Herr Gothard on the spectrum of the new star in Auriga as compared with the spectra of planetary nebulæ (Monthly Notices R.A.S., vol. liii. p. 55). The author has photographed the spectra of a number of nebulæ, and compared the results with his photographs of the Nova spectrum. "Each new photograph," says he, "increased the probability, which may be considered as a proved fact that the *spectrum not only resembles, but that the aspect and the position of the lines show it to be identical with the spectra of the planetary nebulæ*. In other words the new star has changed into a planetary nebula." In the face of this array of facts nothing could appear to be more satisfactorily established than the descent of the Nova to the condition of a nebula. Up to the present only one observer, Dr. Huggins, has delivered himself of a contrary conviction. His observations have led him to believe that "the bright band in the Nova spectrum is resolved into a long group of lines extending through about fifteen tenth-metres" when a high dispersion is employed (*Astr. Nach.*, No. 3153). This observation, however, has not been confirmed, hence it cannot be "implicitly accepted." It can hardly be discussed until Dr. Huggins gives a more explicit description of the number and positions of the individual lines he has seen.

Such are the theories with regard to the origin of Nova Aurigæ and new stars generally. From the survey we see that Huggins' theory of burning worlds suggested to account for the appearance of a new star has gone the way of Tycho Brahe's idea that such bodies are new creations. Any and all chromospheric theories fail to explain the transformation of the Nova into a nebula, so they should be abandoned. And finally, the whole sequence of spectroscopic phenomena is explainable on the hypothesis that the light was produced "by the clash of meteor-swarms." From the point of view of the meteoritic hypothesis things could hardly have turned out more satisfactorily than they have, yet at least one carping critic, after being forced to admit the testimony of his eyes that the Nova now exists as a nebula, has ventured to say that the fact tells against it. How, forsooth? Simply to make such a statement without backing it up reminds one very forcibly of mud-throwing. Let the blows to the hypothesis be fairly given, and as fairly met, for only by such means can the truth prevail.

RICHARD A. GREGORY.

THE ROYAL SOCIETY SELECTED CANDIDATES.

THE following fifteen candidates were selected on Thursday last (April 27) by the council of the Royal Society, to be recommended for election into the Society. The ballot will take place on June 1 at 4 p.m. We print with the name of each candidate the statement of his qualifications.

WILLIAM BURNSIDE, M.A.,

Professor of Mathematics at the Royal Naval College, Greenwich. Formerly Fellow of Pembroke College, Cambridge. Author of the following papers among others:—"On Deepwater Waves resulting from a Limited Original Disturbance," and "On the small Wave-Motions of a Heterogeneous Fluid under Gravity" (Proc. Lond. Math. Soc., vol. xx.); "On Functions determined by their Discontinuities and by a Certain Form of Boundary Condition," and "On a Certain Riemann's Surface" (*ibid.*, vol. xxii.); "On a Class of Automorphic Functions," with a "Further Note," and "On the Forms of Hyperelliptic Integrals of the First Class, which are Expressible as the Sum of Two Elliptic Integrals" (*ibid.*, vol. xxiii.); "The Elliptic Functions of $\frac{1}{3}$ K., &c.;" "Centre of Pressure of a Plane Polygon" (*Messenger of Math.*, vol. xii.); "On Certain Spherical Harmonics" (*ibid.*, vol. xiv.); "On the Trisection of the Period for Weierstrass's Elliptic Functions" (*ibid.*, vol. xvi.); "On the Potential of an Elliptic Cylinder" (*ibid.*, xviii.); "Geometrical Interpretation of a Condition of Integrability;" "The Lines of Zero Length on a Surface as Curvilinear Co-ordinates;" "On the Propagation of Energy in the Electro-Magnetic Field" (*ibid.*, vol. xix.); "On the Addition-Theorem for Hyperbolic Functions;" "On a Case of Streaming Motion;" "A Property of Linear Substitutions;" "A Property of Plane Isothermal Curves;" "On the Differential Equation of Confocal Sphero-Conics" (*ibid.*, vol. xx.); "On the Jacobian of Two Quadratics and a System of Linear Equations," "On the Form of Closed Curves of the Third Class;" "On Linear Transformations of the Elliptic Differential" (*ibid.*, vol. xxi.); "On the Division of the Elliptic Periods by 9" (*ibid.*, vol. xxii.); "On the Partition of Energy Between the Translatory and Rotational Motions of a Set of Now Homogeneous Spheres" (Edin. Trans., 1888); "On a Simplified Proof of Maxwell's Theorem (in the Kinetic Theory of Gases)" (Edin. Proc., 1887); "On the Theory of Functions" (Camb. Phil. Proc. vol. vii.).

Wyndham R. Dunstan, M.A.,

Professor of Chemistry to, and Director of the Research Laboratory of, the Pharmaceutical Society of Great Britain. Lecturer on Chemistry in the Medical School, St. Thomas's Hospital. Author of numerous papers on Chemistry and Chemical Pharmacology, *e.g.*:—"The Action of Alkalis on the Nitroparaffins"; "The Physiological Action of the Paraffinic Nitrites" (Proc. Roy. Soc., 1891—the first of a series of papers in conjunction with Prof. Cash, F.R.S.); "Contributions to our Knowledge of the Aconite Alkaloids"; "The Occurrence of Skatole in the Vegetable Kingdom"; "The Constituents of the Artificial Salicylic Acid of Commerce and a method of producing the pure acid for medicinal use." Distinguished as an Investigator, and for the interest which he has taken in Educational Questions.

William Ellis,

F.R.A.S., F.R. Met. Soc., Memb. Inst. Elect. Eng., late President of Roy. Meteorol. Soc., Superintendent of the Magnetical and Meteorological Department, Royal Observatory, Greenwich. Connected with the Royal Observatory since 1841, and since 1875 has been Superintendent of the Magnetical and Meteorological Department. For eighteen years previously, in addition to astronomical work, had charge of the Chronometer and Time Signal Department. First showed how completely the long series of Greenwich magnetic observations confirmed the existence of sympathetic variation between solar spots and terrestrial magnetism, for horizontal force as well as for declination. Among other works, carried out, on the English side, the whole of the operations in the telegraphic determination of the longitude of Cairo, in which a submarine line of about 3000 miles in length was used in an unbroken circuit. His discussion of these operations is given in the British "Account of the Observations of the Transit of Venus, 1874." Applied the principle of the galvanic regulation of clocks to the regulation of a chronometer. Was formerly Observer in Durham University Observatory, his astronomical work during this time being published in the *Astronomische Nachrichten*, vols. xxxv., xxxvi., and xxxvii. Is the author of a paper in the *Phil. Trans.* "On the Relation between the Diurnal Range of Magnetic Declination and Horizontal Force, as observed at the Royal Observatory, Greenwich, 1841 to 1877, and the Period of Solar Spot Frequency." Also of papers in the *Memoirs* and *Monthly Notices* of the Roy. Astron. Soc., the *Quart. Journ. Roy. Meteorol. Soc.*, and other scientific journals.

J. Cossar Ewart, M.D.,

Professor of Natural History in the University of Edinburgh. An original investigator in various departments of Zoology and Comparative Anatomy. Author of valuable biological memoirs communicated to the Royal Society and to various scientific journals, his researches on the Locomotive System of the Echinodermata having been selected by the Council of the Royal Society as the subject of the Croonian Lecture of 1881. He was appointed in 1878 to the Chair of Natural History in the University of Aberdeen, and, subsequently, to the corresponding chair in the University of Edinburgh. This last post he now fills. He is a member of the Fishery Board of Scotland, and is at present engaged under the co-operation of the Board in important observations and experiments on the Natural History of the Herring. Author of:—"The Development of the Electric Organ of *Raia batis*"; "The Structure of the Electric Organ of *Raia circularis*"; "The Electric Organ of *Raia radiata*" (Phil. Trans., 1889); "The Structure, Relations, Progressive Development and Growth of the Electric Organ of the Skate" (*ibid.*, 1892; "The Cranial Nerves of Elasmobranch Fishes" (Trans. Roy. Soc., Edin.).

William Tennant Gairdner, M.D. (Edin.),

Hon. LL.D. (Edin.). F.R.C.P. (Edin.). Hon. M.D. (Dublin). F.K.Q.C.P. (Ireland), Physician in Ordinary to H.M. the Queen in Scotland. Professor of Medicine in the University of Glasgow. Since his graduation, in 1845, has made numerous contributions to the science of Medicine, more especially in the departments of Pathology, Public Health and Hygiene, and Clinical Medicine. He is generally recognised as one of the foremost physicians of his time, and his status in the profession is indicated by the fact that he has acted as President of the British Medical Association. For several years he acted as the first Medical Officer of Health for the city of Glasgow, and it is well known that the measures he then initiated for securing the health of the community soon materially lowered the death rate of the city, and have been largely adopted both at home and abroad. Dr. Gairdner has held the chair of Medicine in the University of Glasgow for thirty years, and he is distinguished as a teacher as well as an investigator into the phenomena of disease. Dr. Gairdner has published the following works:—(1) "Contributions to the Pathology of the Kidney" (1848); (2) "Pathological Anatomy of Bronchitis and on Bronchial Obstruction" (1850); (3) "Pathology of Pericarditis" (1860); (4) "Clinical Medicine" (1862); (5) "Public Health in Relation to Air and Water" (1862); (6) "Alcoholic Stimulants in Treatment of Fever" (1864); (7) "Study of Fever in Glasgow" (1865); (8) "On Articulate Speech and Aphasia" (1866); (9) "On Antipyretic Treatment of Specific Fever" (1878); (10) "Clinical Lectures" (1877); (11) "Angina Pectoris" in Reynolds's "System of Medicine" (1877); (12) "On the Physiognomy of Disease in Finlayson's Clinical Manual" (1878); (13) "On Insanity" (Morisonian Lectures, 1885); (14) "The Physician as a Naturalist" (1888); and many papers in medical journals, and in the transactions of pathological and medical societies.

Ernest William Hobson,

D.Sc. (Cantab.). Fellow of Christ's College, Cambridge, and University Lecturer. Author of the following memoirs, paper and book:—"On a Class of Spherical Harmonics of Complex Degree with Applications to Physical Problems" (Trans. Camb. Phil. Soc., vol. xiv.); "Synthetical Solutions in the Conduction of Heat" (Proc. Lond. Math. Soc., vol. xix.); "Systems of Spherical Harmonics" (*ibid.*, vol. xxii.); "On Harmonic Functions for the Elliptic Cone" (*ibid.*, vol. xxiii.); "On a Radiation Problem" (Proc. Camb. Phil. Soc., vol. vi.); "On a Theorem in Differentiation and its Application to Spherical Harmonics" (read before the Lond. Math. Soc., and in the press); "On the Evaluation of a Certain Surface-Integral and its Application to the Expansion of the Potential of Ellipsoids" (read before the Lond. Math. Soc.); "On Fourier's Theorem" (*Messenger of Math.*, vol. xi.). Author of the article "Trigonometry," in the "Encyclopædia Britannica," Author of a treatise on "Trigonometry," including many of the higher developments.

Sir Henry Hoyle Howorth,

Barrister-at-Law. Author of "A History of the Mongols, 4 vols., 1876-87; "The History of Chenghiz Khan and his

Ancestors," containing much information upon the Ethnography of Asia, &c., published in parts in "The Indian Antiquary," and about to be republished separately; "The Mammoth and the Flood," 8vo, pp. 464, 1887. Numerous papers on historical, antiquarian, anthropological, and geological subjects in Journ. Ethnolog. Soc., Journ. Anthrop. Inst. (Westerly Drifting of the Nomads, Ethnology of Germany, Spread of the Slaves, &c.), Journ. Roy. Asiat. Soc. (Northern Frontagers of China), International Congress of Orientalists, Historical Soc. (Early History and Movements of the Danes and Norsemen), Archæologia, Geological Magazine, &c. Distinguished for his literary and archæological attainments.

Edwin Tulley Newton,

F.G.S., F.Z.S. Palæontologist to the Geological Survey of England and Wales. For twenty-five years on the Staff of the Survey. Recipient of the Wollaston Donation Fund of the Geological Society, in 1884. Author of numerous papers on Palæontological and Biological Subjects, of which the following are some of the more important:—"On the Skull, Brain and Auditory Organ of a New Species of Pterosaurian (*Scaphognathus Purdoni*)" (Phil. Trans., 1888); "On a Gigantic Species of Bird (*Gastornis Klaassenii*) from the Lower Eocene" (Trans. Zool. Soc., 1886); twenty-six papers on "Cretaceous Fishes and Tertiary Vertebrata" (in *Quart. Journ. Geol. Soc.* and *Geol. Mag.*, 1876-90) "On the Structure of the Eye of the Lobster and on the Brain of the Cockroach" (*Quart. Journ. Micros. Sci.* 1873-79). Also the following Memoirs of the Geological Survey:—"The Chimœroid Fishes of the British Cretaceous Rocks" (1878); and "The Vertebrata of the Forest Bed Series of Norfolk and Suffolk."

Charles Scott Sherrington,

M.B. (Camb.), M.A. Lecturer on Physiology, St. Thomas's Hospital. Author of the following and other papers:—"Secondary and Tertiary Degenerations in the Spinal Cord of the Dog" (*Journ Physiol.*, 1885); "Degenerations in the Spinal Cord following Lesions of the Cortex Cerebri" (*ibid.*, 1889); "On two recently described Tracts in the Spinal Cord" ("Brain," 1886); "On Outlying Nerve Cells, in the Mammalian Spinal Cord" (Phil. Trans., 1890). Joint Author of the following, and other papers:—"Secondary Degeneration in the Spinal Cord of the Dog" (*Journ. Physiol.*, 1884); "Bilateral Descending Degeneration Fifty-two Days after Hæmorrhage in one Cerebral Hemisphere" ("Brain," 1886); "On the Formation of Scar Tissue" (*Journ. Physiol.* 1889); On the Regulation of the Blood Supply of the Brain" (*Journ. Physiol.* 1890); "The Influence of the Movements of the body upon the Capacity of the Cranio-Vertebral Canal" ("Brain," 1891).

Edward C. Stirling,

M.D. (Camb.), M.A., F.R.C.S., C.M.Z.S., late President, Royal Society of South Australia, and Inter-colonial Medical Congress. Senior Surgeon, Adelaide Hospital. Lecturer on Physiology, University of Adelaide. Eminent for his researches in Physiology and Ethnology in South Australia. Formerly Assistant-Surgeon and Lecturer on Physiology, St. George's Hospital, London. For ten years Surgeon to the Adelaide Hospital, and now Senior Surgeon and Member of the Board of Management. For ten years Lecturer on Physiology and Member of the University Council of Adelaide. President of the First Inter-colonial Medical Congress, 1887; Vice-President of the Second, 1888. President of the Royal Society of South Australia, 1889; and of the Australian Branch of the British Medical Association in 1888. A member of the Legislative Assembly South Australia, 1883-86. First President and Organiser of the States Children Council. For seven years Hon. Director and Organiser of the South Australian Museum. Author of many papers in the St. George's Hospital Reports, Inter-colonial Congresses, the Transactions South Australian Branch Brit. Med. Assoc., Transactions of the Zoological Society, London, and Royal Society of South Australia. Discoverer of a new genus and Species of Marsupialia, *Notoryctes Typhlops*, and other species, during a journey from the north to the south of the Australian Continent, in company with His Excellency the Earl of Kintore, Governor of South Australia.

John Isaac Thornycroft,

M.Inst.C.E. Member of Council of the Institution of Naval Architects. Author of several papers connected with Science, as: "On the Resistance opposed by Water to the motion of Vessels of Various Forms, and on the way in which this varies with the velocity" (1869); "On the Efficiency of Guide-blade Propellors" (1883); "On the most suitable Propellor for Shallow Draughts" (1885); "On Shallow-draught Screw-steamers" (1885); "On Torpedo-boats and Light Yachts" (8vo, pp. 94, with five large diagrams, 1881). A distinguished engineer and naval architect, also most successful as a scientific naval architect in the construction of torpedo-boats, having a minimum of weight and a maximum of power and speed. Attached to science and anxious to promote its progress.

James William Helenus Trail,

M.D., A.M., C.M. (Aberdeen). Regius Professor of Botany (since 1877) in the University of Aberdeen. Corresp. K.-K Zool.-Botan. Gesell., Vienna, and Soc. Nat. Sci. et Math., Cherbourg. Made, in 1874, important botanical collections in the Valley of the Amazon, in North Brazil. Author of a paper on the Palms collected on the occasion (Journ. of Bot., 1876); of a "Revision of Scottish *Discomycetes*" (Scottish Naturalist, N.S., iv., 1889); of a paper on the Gall-making Diptera of Scotland (*ibid.*, 1888), and of numerous others.

Alfred Russel Wallace,

LL.D., D.C.L., F.L.S., F.Z.S. Author of a paper "On the Tendency of Varieties to depart indefinitely from the Original Type" (Journ. Linn. Soc., iii., 1859, Zoology), and numerous other writings.

Arthur Mason Worthington,

M.A., F.R.A.S. Head Master and Professor of Physics, Royal Naval Engineering College, Devonport. Distinguished as a physicist, especially for his researches on surface tension and on the stretching of liquids. Author of the following papers:—"On the Forms assumed by Drops of Liquid falling Vertically on a Horizontal Plate" (Proc. Roy. Soc., 1876-77); "On the Spontaneous Segmentation of a Liquid Annulus" (*ibid.*, 1879); "On Pendent Drops" (*ibid.*, 1881); "On Impact with a Liquid Surface" (*ibid.*, 1882); "On the Horizontal Motion of Floating Bodies under the Action of Capillary Forces" (Phil. Mag., 1883); "On the Surface Forces in Fluids" (*ibid.*, 1884), "On the Error involved in Prof. Quincke's Method of Calculating Surface Tensions from the Dimensions of Flat Drops and Bubbles" (*ibid.*, 1885); "A Capillary Multiplier" (*ibid.*); "On Tensional Stress and Strain within a Liquid" (Brit. Assoc. Sect. A., 1888): "On the Discharge of Electrification by Flames" (Brit. Assoc., Rept. Electrolysis Comm., 1889); "On the Mechanical Stretching of Liquids, an Experimental Determination of the Volume-Extensibility of Ethyl Alcohol" (read before the Roy. Soc. Feb. 4, 1892). Also of the following:—"Physical Laboratory Practice," and "The Dynamics of Rotation."

Sydney Young

D.Sc. (Lond.). Professor of Chemistry, University College, Bristol. Well known as a scientific chemist. Author of numerous papers on Organic and Inorganic Chemistry, and on the border-land of Physics and Chemistry. Among these are:—"Alkyl Fluorides;" "Ethyl valerolactone;" "Vapour Pressures and Specific Volumes of Halogen Compounds in relation to the Periodic Law;" "A New Method of determining Specific Volumes of Liquids and Saturated Vapours;" "The Molecular Volumes of the Saturated Vapours of Benzene, and of its Halogen Derivatives." Dr. Young is also the joint author of numerous memoirs on the thermal properties of liquids, and allied subjects, several of which have appeared in full in the Philosophical Transactions. During the last five years Dr. Young has published the following papers on chemical and physical subjects:—Preparation of Dibenzyl Ketone; Vapour-Pressures of Quinoline, Dibenzyl Ketone, and Mercury; Exact Thermometry; The Volatilisation of Ice; A Thermometer for Lecture Purposes; Relations between Boiling-Points, Molecular Volumes, and Chemical Characters of Liquids; Vapour-Pressures and Molecular Volumes of Acetic Acid, Carbon Tetra-Chloride, and Stannic Chloride; Relations between "Corresponding" Temperatures, Pressures, and Volumes of Liquids and Vapours. The last item of the series of joint papers with Professor Ramsay—"A Study of the Thermal Properties of Water and Steam"—has been published in the Philosophical Transactions. Dr. Young is also the author of the articles on "Distillation," "Sublimation," and "Thermometry" in Thorpe's "Dictionary of Applied Chemistry."

NOTES.

MR. CHARLES CHREE, Fellow of King's College, Cambridge, has been selected to fill the important office of Superintendent to the Kew Observatory. It is one for which the combination of high mathematical capacity with a practical experience of the apparatus and methods of physical research is especially needed. Mr. Chree obtained in 1884 the hitherto unequalled honour of a first class in the most advanced parts both of the Mathematical and of the Natural Science Triposes, and he has since been much engaged at Cambridge in experimental and mathematical investigations. The results of these are published in the *Cambridge Philosophical Journal*, and in the "Philosophical Transactions" of the Royal Society.

THE "James Forrest" lecture will be delivered at the Institution of Civil Engineers this evening by Mr. William Anderson, F.R.S. The subject is the interdependence of abstract science and engineering.

SIR W. H. FLOWER, F.R.S., will preside over the fourth annual meeting of the Museums' Association, which will be held in London in July. The meeting, which will last for several days, will begin on Monday, July 3.

AT the meeting of the Victoria Institute on Monday a paper by Prof. Maspero was read in the author's absence by Mr. T. G. Pinches, of the British Museum. The paper embodied the results of Prof. Maspero's investigations during the past ten years as regards the places in Southern Palestine claimed, according to the Karnac records, to have been captured by the Egyptians in the campaign under Sheshonq (Shishak) against Rehoboam.

THE report of the Council of the City and Guilds of London Institute has just been published. We are glad to note that they are "able again to point to steady and continued development in each branch of the Institute's work, as shown by the statistics of their colleges, and—what is more satisfactory—by the positions taken by their students, as the result, to a large extent, of the instruction provided."

THE tercentenary of the foundation of the Botanic Garden of Montpellier will be celebrated by *fêtes* from the 20th to the 28th of May, when the Botanical Society of France will hold its special annual session in the town. The botanists of Montpellier offer hospitality to foreign botanists who may desire to attend the *fêtes*.

SINCE the death of Dr. Prantl the editorship of the cryptogamic bi-monthly *Hedwigia* has been undertaken by Dr. G. Hieronymus, Herr P. Hennings, and Dr. G. Lindau.

UNDER the auspices of the Imperial Academy of Sciences in Vienna, Dr. E. v. Halácsy, and Prof. Hilber have undertaken a botanical and geological investigation of Mt. Pindus in Thessaly in the course of the present year.

PROF. MARTIN, on account of his serious and prolonged ill-health, has tendered his resignation of the professorship of biology, which he has held in the Johns Hopkins University since 1876.

A NEW journal of experimental and theoretical physics, called *The Physical Review*, and conducted by Edward L. Nichols and Ernest Merritt, will be published for the Cornell University by Messrs. Macmillan and Co., New York and London. The first number will appear on July 1. The new journal will be issued bi-monthly, and each number will consist of at least sixty-four pages. It will be devoted to the promotion of original work in physics.

THE Camera Club has issued a "Conference Number" of its Journal, in which an account is given of the proceedings of the Photographic Conference, held lately at the Society of Arts.

SINCE our last issue the temperature has appreciably decreased over these islands; the maxima have only reached 70° occasionally in the southern and central parts of England, while in all other districts the thermometer has seldom risen above 60°. Up to Tuesday, the 2nd inst., the rainfall had only been slight, the greater part being confined to the northern and western parts of the country, where small amounts have been of frequent occurrence. The recent drought has been probably unprecedented in some parts; at places on the south coast no rain had fallen for forty-five days, while in the neighbourhood of London there were thirty days without rain. The type of weather has recently undergone an entire change; cyclonic disturbances formed in and near our islands, while the anticyclonic conditions temporarily disappeared. With this change in the distribution of atmospheric pressure, the northerly and easterly winds gave place to those from westerly and southerly directions, unsettled and showery weather became general over the whole country, and the softer quality of the air was very perceptible. Notwithstanding the decrease of temperature, the *Weekly Weather Report* of April 29 showed that it was above the mean in all districts, the excess varying from 3° to 5° in the north and west, to 6° or 7° in most parts of England. The rainfall for the week was, of course, less than the mean in all districts, while bright sunshine was very prevalent over the entire kingdom; in the Channel Islands the percentage of possible duration was as high as 81, and in all districts it greatly exceeded the average.

DR. PAUL SCHREIBER has communicated to the *Meteorologische Zeitschrift* for April an account of some extraordinary snowballs which fell at Glashutte, in Saxony, on December 4 last. After a storm which had lasted ten minutes, a calm suddenly occurred, and light balls of snow measuring from four to five inches began to fall. The balls lay on the ground until the next day, there being from five to twelve of them to a square yard. Dr. Schreiber thinks that the phenomenon was of an electrical origin, as the preceding disturbance seemed to point to a thunderstorm.

PROF. HELLMANN, to whom meteorologists are so much indebted for many laborious investigations into the history of old observations and instruments, has recently made an important addition to early meteorological literature by the publication of *Das älteste Berliner Wetter-Buch*, containing observations made in Berlin in 1700–1701, by Gottfried Kirch and his wife, being the first part of a manuscript of over 1000 quarto pages. During the preparation of Dr. Hellmann's valuable work on the climate of Berlin he had made constant search for these observations, which were known to have been in Berlin about fifty years ago, and he at last discovered them, strangely enough, in the Crawford Library at the Edinburgh University. It is well known that Lord Crawford (then Lord Lindsay) took an interest in collecting works on comets, and these old manuscripts contained a number of such observations, in addition to meteorological data. Dr. Hellmann's account of the search for, and the discovery of, the manuscript, and of the antecedents of the Kirch family, is exceedingly interesting.